A method of applying a protective organic coating to an optical glass fibre.

The invention relates to a method of applying a protective organic coating to an optical glass fibre or to a coated optical glass fibre, wherein said glass fibre is drawn from a preform and passed through a liquid which contains the material for forming said organic coating, wherein, once the amount of liquid coating material to be applied to the fibre has been adjusted, wherein a gas is carried past the coating material is hardened and a gas is passed along the coating material.

A method of this kind is known from EP-A-0 261 772. In the claims of said patent application it is stated that CO_2 is used as said gas, thus minimizing the number of air inclusions that may form upon forming of the coating. The surface of the coating material of the glass fibre is conditioned by means of CO_2. It is stated in the introduction of EP-A-0 261 772 that various gases may be used, such as nitrogen, carbon dioxide, noble gases, in particularly xenon, neosan and argon, and chemically inert gaseous hydrocarbons such as chloroform, Freon (brand name), halogen hydrocarbons or other chlorine- or fluorine-substituted hydrocarbons. In particular, however, CO_2 is used.

A method of the above kind is also known from EP-B-0200256, wherein it is indicated that xenon and dichlorodifluoromethane are gases which are usable within this framework.

Further research has shown that a higher-quality bond of the organic material to the glass fibre is obtained by using a gas other than those which have been proposed so far. Accordingly, the present invention is based on the use of a gas other than those which have been used so far. According to the invention, the method as stated in the introduction is therefore characterized in that nitrous oxide (an N_2O-containing gas) is used as said gas. The term nitrous oxide as used herein should be understood to mean a gas which contains at least 50% N_2O.

Preferably, the gas is introduced at the upper side of the device for applicating the organic coating material to the fiber. We also found that with the method according to the invention it also is possible to applicate a second or third organic coating layer to an allready coated fibre. The amount of gas supplied to the liquid organic coating material depends on the construction of the device for applicating the coating material and the drawing speed. Nevertheless this amount must

be sufficient for preventing entrained air, that comes along with the fibre, to become entrapped in the coating. The amount of gas can be minimized by using specific nozzles or a small diameter shaft.

The invention furthermore relates to the optical glass fibre provided with a protective organic coating formed in accordance with a method wherein an N_2O-containing gas is used as said gas.